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Case Presentation

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Pars Planitis Associated with Cystoid Macular Edema with Visual Acuity Preservation: A Case Report

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Abstract

Pars Planitis, a form of intermediate uveitis, is characterized by idiopathic inflammation of the posterior segment of the eye. Among common complications, cystoid macular edema (CME) can occur, causing structural changes in the retina, though it does not always significantly impact visual acuity. This article discusses possible pathophysiological explanations, available therapeutic options, and the importance of clinical follow-up, emphasizing cases where visual function is maintained. The review is based on recent clinical and experimental studies, offering a critical analysis of the challenges in managing the disease.

Keywords: Pars Planitis; Macular Edema; Uveitis; Inflammation

Introduction

Intermediate uveitis, chronic and recurrent, manifests insidiously, predominantly affecting the vitreous and peripheral retina bilaterally. Its incidence is 1.4 to 2 cases per 100,000 people, occurring primarily

between the ages of 15 and 40. Causes range from infectious to non-infectious, with the idiopathic form (Pars Planitis) being the most common, representing 70% of cases. Clinically, it presents with symptoms such as floaters, reduced visual acuity, pain, photophobia, and ocular hyperemia, with anterior segment involvement in 28% to 50% of patients. The main complication, Cystoid Macular Edema (CME), occurs in 40% to 65% of cases, impacting visual acuity. Pars Planitis is characterized by idiopathic inflammation of the pars plana and peripheral vitreous. With a higher prevalence in young adults, the condition is generally bilateral and chronic. Although the etiology is largely unknown, genetic and immunological factors are believed to play significant roles. The disease may be associated with complications such as retinal detachment, neovascularization, and CME, the latter being one of the primary causes of visual loss in patients with Pars Planitis.

CME is defined by the accumulation of fluid in the outer plexiform layer of the retina, leading to cyst formation. This process results from alterations in the blood-retinal barrier and intra-retinal osmotic balance. Despite significant structural impact, some patients maintain preserved visual acuity even when changes are detectable through Optical Coherence Tomography (OCT). Visual acuity preservation may be attributed to factors such as edema location, the absence of photoreceptor structure impairment, and the adaptive capacity of the visual cortex.

Objectives

To review the literature on Pars Planitis associated with Cystoid Macular Edema (CME) in patients with preserved visual acuity and present a clinical case of a female adolescent patient.

Materials and Methods

A literature review was conducted using articles published in the PubMed, ScienceDirect, and SciELO databases to support the study.

Case Presentation

A 16-year-old female adolescent with no comorbidities presented with "redness" and bilateral eye pain. Biomicroscopy revealed posterior synechiae and Anterior Chamber Reaction (ACR), treated with topical corticosteroids and cycloplegic agents. Elevated ESR and CRP were observed, but additional tests were normal. After recurrent episodes, OCT of the macula revealed CME, which was managed conservatively due to good visual acuity (20/25 in the worse eye). Posterior synechiae progressed to pupillary seclusion and increased IOP, requiring iridotomy in both eyes. "Snowballs" were identified in the peripheral retina. The patient maintains 20/20 visual acuity with topical treatment and awaits referral to rheumatology and a uveitis specialist via the public health system **(Figure 1-3)**.

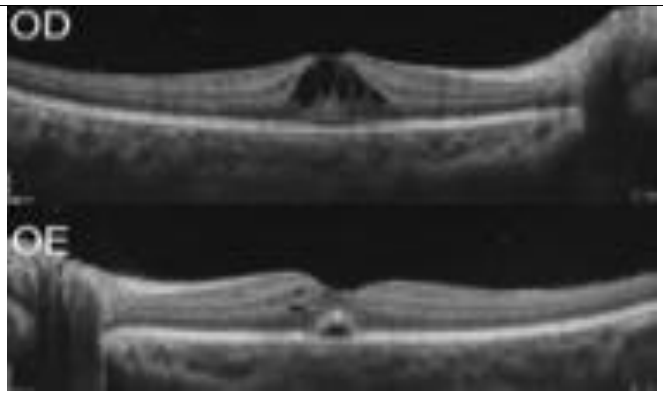

Figure 1: OCT of the macula: Intra- and subretinal fluid in both eyes, worse in the right eye, consistent with cystoid macular edema.

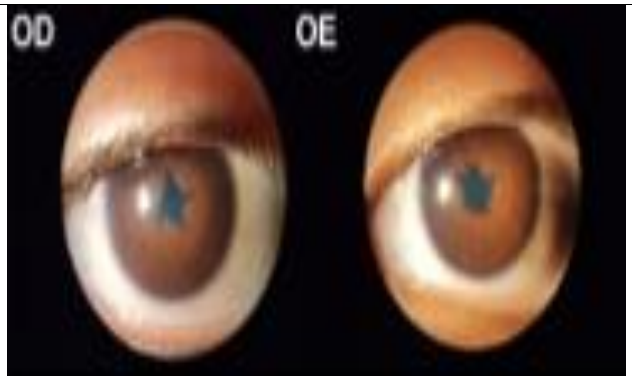

Figure 2: Biomicroscopy showing pupillary seclusion, shallow anterior chamber, and a slight pupillary membrane in the left eye.

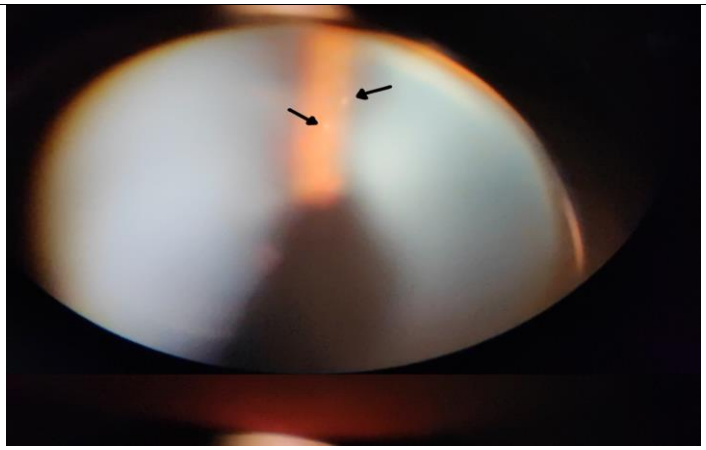

Figure 3: Snowballs identified in the peripheral retina (black arrows) through fundoscopy with a three-mirror lens.

Discussion

The association between Pars Planitis and CME is well documented. CME results from a breakdown of the blood-retinal barrier, mediated by inflammatory cytokines such as interleukin-6 (IL-6) and tumor necrosis factor-alpha (TNF-α). However, the preservation of visual acuity in many patients suggests that the location of edema and the integrity of photoreceptors play a crucial role. Therapeutic options include systemic corticosteroids, immunosuppressants, and biological therapies. In asymptomatic patients, a watchful waiting approach may be appropriate. Advances in OCT have enabled ear **[1-18]**.

Conclusion

Pars Planitis associated with CME while preserving visual acuity presents a clinical paradox. Although CME is often a debilitating complication in terms of visual functionality, there are cases in which vision remains unchanged, challenging traditional paradigms. This phenomenon highlights the complexity of the interactions between structural retinal changes and the functional mechanisms of the visual system. In conclusion, Pars Planitis associated with CME represents an area of great relevance in ophthalmology, with significant clinical and therapeutic implications. Further studies are necessary to elucidate the underlying mechanisms and optimize management approaches, ensuring better outcomes for patients.

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